

REMARKS

Claims 1-5, 7-10 and 12 are now pending in the application. Minor amendments have been made to the specification and claims to simply overcome the of the claims under 35 U.S.C. § 112. The Examiner is respectfully requested to reconsider and withdraw the rejection(s) in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 112

Claims 1-5, 7-10 and 12-14 stand rejected under 35 U.S.C. § 112, first paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. This rejection is respectfully traversed.

The Examiner alleges that the phrase "subjecting the image to a binarization process to carry out image measurements" in independent claims 1, 2, and 5 is new matter. Independent claims 1, 2, and 5, however, are amended to delete "subjecting the image to a binarization process to carry out image measurements."

The Examiner further alleges that the features of "setting an examination range on a surface of a workpiece" and "performing a pattern matching to determine if the imaged passing light matches the examination range" are new matter. Applicants respectfully assert, however, that the step of "setting an examination range on a surface of a workpiece" is supported at, for example, Figure 1(2) and that the step of "performing a pattern matching to determine if the imaged passing light matches the examination range" is supported at paragraph [0021].

Referring to Figure 1(2), it may be seen that an examination range (indicated by the shaded pixels) is set on a surface of a workpiece 10. Because this step is illustrated in the figures, Applicants respectfully assert that this limitation does not include new matter.

With respect to the step of "performing a pattern matching to determine if the imaged passing light matches the examination range," paragraph [0021] discloses:

[0021]In this manner, the position of the focal point of the line sensor camera 14 is not concurred with the through hole 32 of the work piece 10 such that it is shifted from the through hole 32 of the work piece 10 to positively create an out-of-focus condition. As a result, the photographed image is apparently expanded, whereby the detection power to detect foreign matters is increased. Accordingly, a work piece 10 having a through hole 32 without any abnormality is used to photograph an image under an out-of-focus condition, and area data for the photographed image is stored as a reference value. The stored area data is compared with area data for a measuring image photographed under the same out-of-focus condition. Due to the presence and the absence of foreign matters, a characteristic difference between the through holes 32 becomes large. In this manner, the detection power for detecting foreign matters is substantially improved. (emphasis added)

In other words, a first image of a reference workpiece having no abnormality is taken as a reference value. A second image of an examined workpiece that may have an abnormality is then taken under the same conditions and compared to the reference value. If the examined workpiece has an abnormality, the image results of both the reference workpiece and the examined workpiece will not match. By this disclosure, therefore, Applicants respectfully assert that the step of "pattern matching" is fully supported by the specification and drawings as originally filed and no new matter is added.

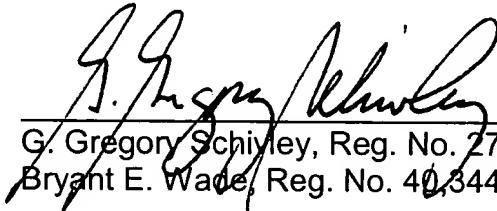
Accordingly, by the amendment to claims 1, 2, and 5, Applicants respectfully assert that claims 1, 2, 5, and their corresponding dependent claims comply with 35 U.S.C. § 112, first paragraph and are in condition for allowance.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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